

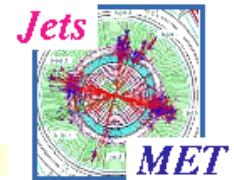
S.Abdullin



CURRENT STATUS OF MET



HLT Data Used

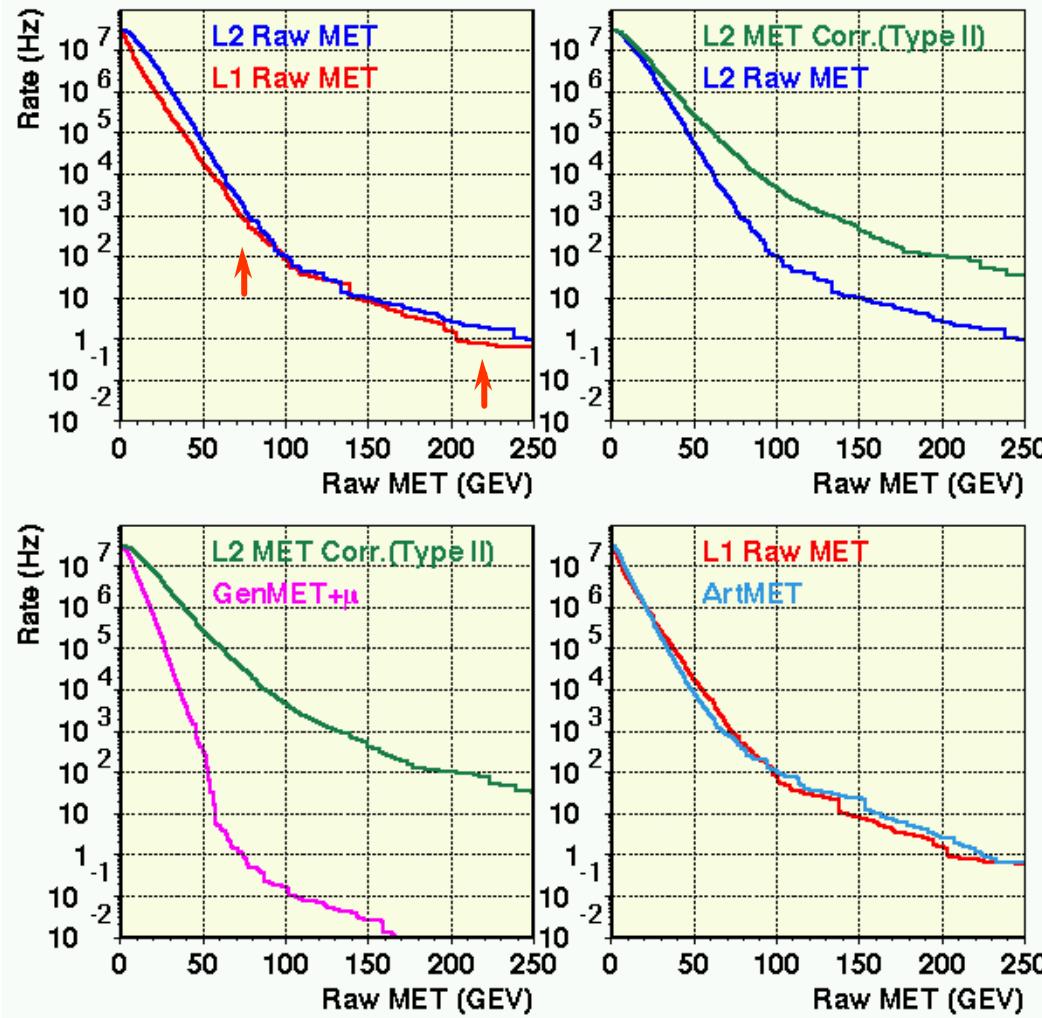
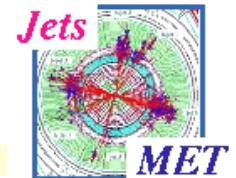


		Low lumi	High lumi
1)	0-15 GeV	<u>94802</u> *	$\hat{P} < 15 \text{ GeV}$
2)	15-20	52000	52000
3)	20-30	51500	51500
4)	30-50	35554	46610
5)	50-80	2000	149250
6)	80-120	133497	98499
7)	120-170	2000	2000
8)	170-230	2000	2000
9)	230-300	10000	19899
10)	300-380	0	9500
11)	380-470	10000	10000
12)	470-600	0	0
13)	600-800	2000	2000
14)	800-1000	2000	2000
15)	1000-1400	2000	2000

`suncms:/data03/cmsprod/ntupl_output`



MET @ Low Luminosity



■ Problem at
high MET ...

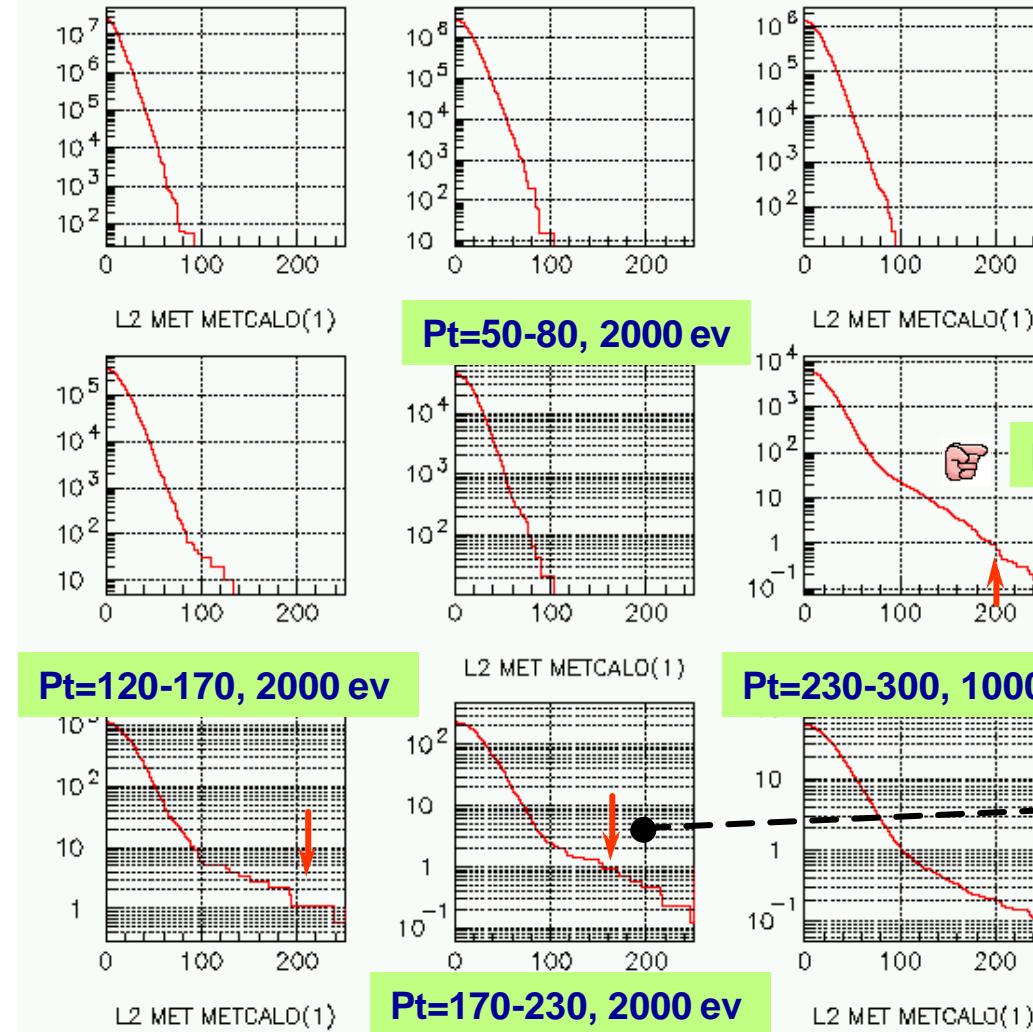
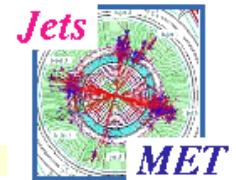
■ In 2002/015
(low lumi) :

☞ L1 MET rate \approx
L2 MET rate = 1 kHz
at \sim 65 GeV

☞ Now at \sim 75 GeV

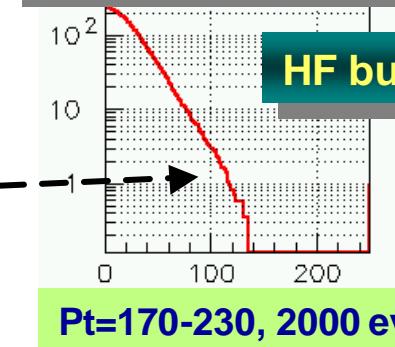


MET @ Low Luminosity (II)



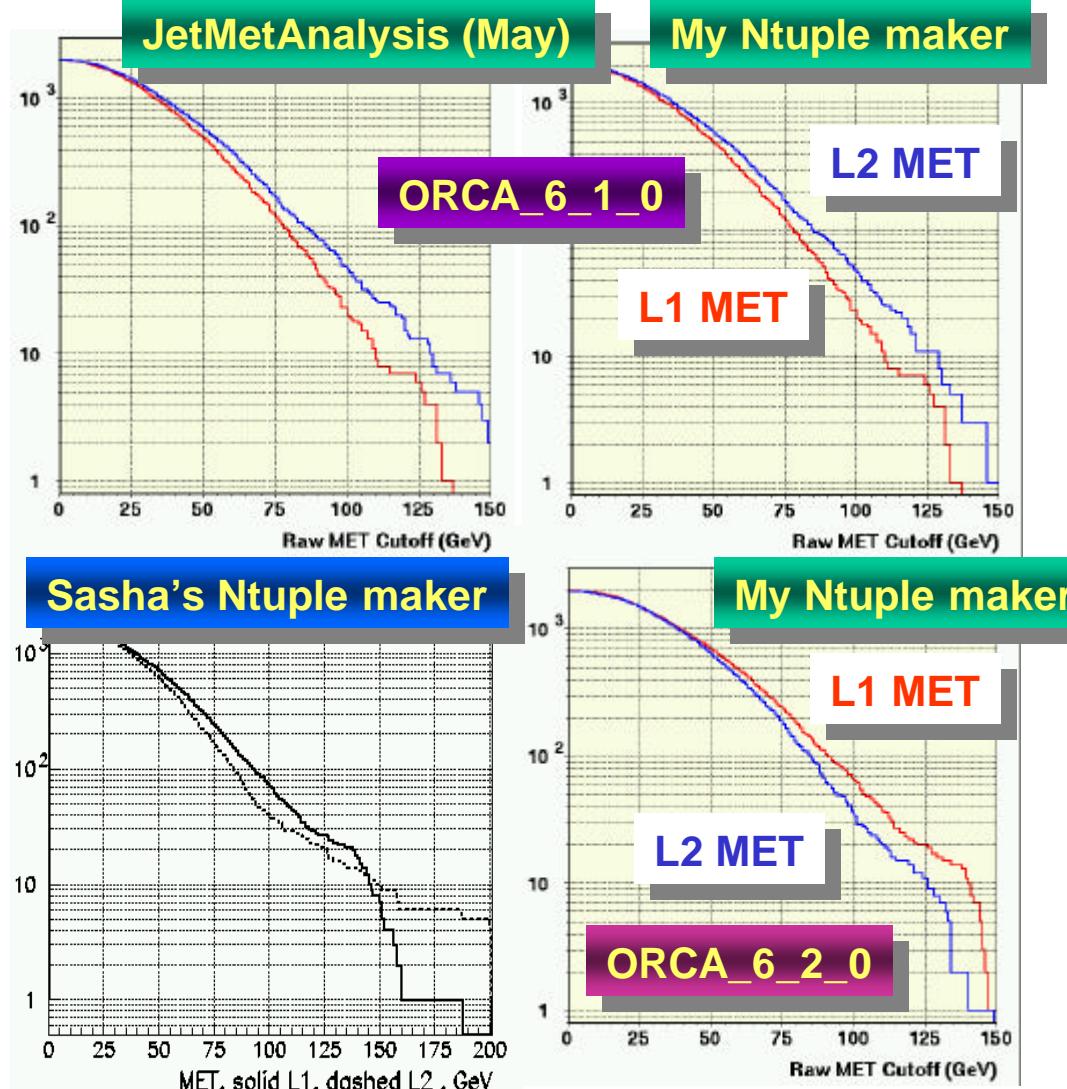
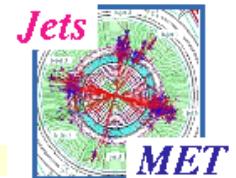
■ Problem at high MET (shown L2) ...

Previous production (May ?)





Reminder : 170-230 GeV @ 1034

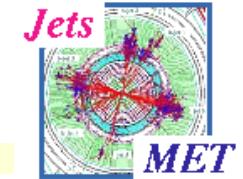


July 31, 2002

S.Abdullin (UMD), Status of MET



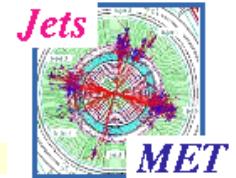
MET @ High Luminosity



👉 Segfault problem ...



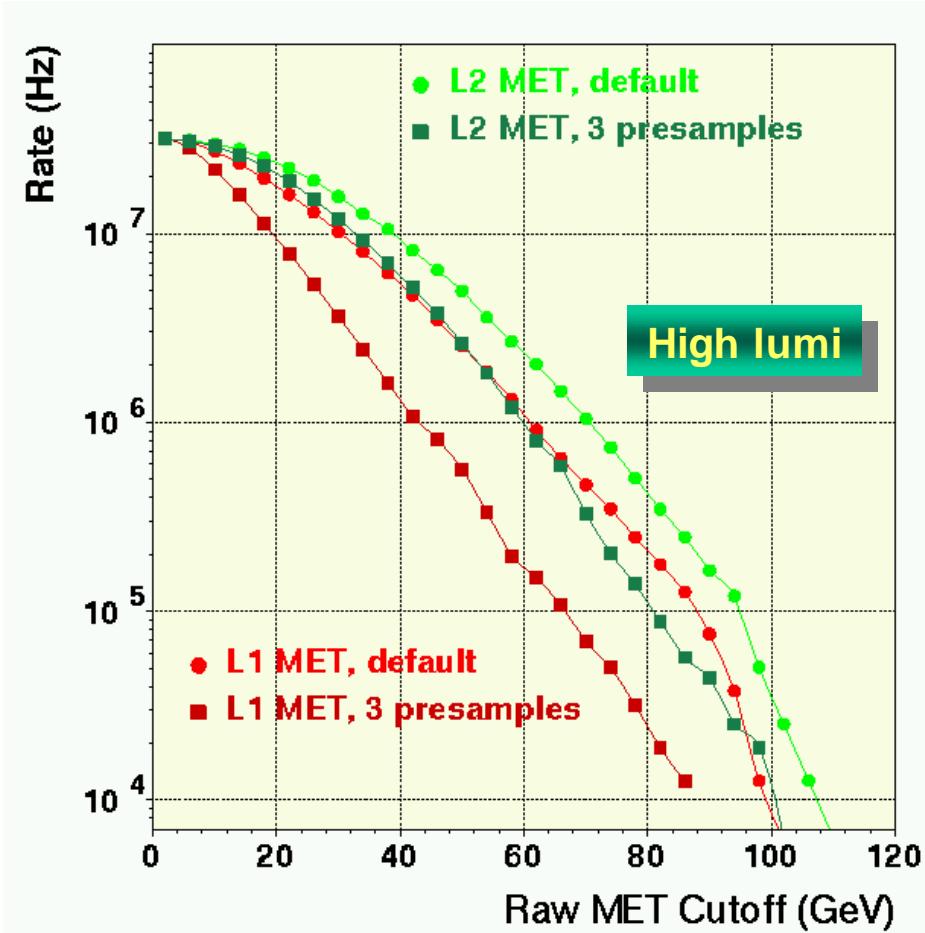
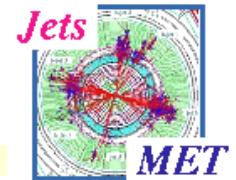
Pileup Subtraction Effect on MET (I)



- High luminosity consideration
- Minimum bias sample (hlt0-15, 5000 ev)
digitized in 2 ways :
 - ☞ default/standard (without pre-samples)
 - ☞ with 3 pre-samples in HB/HE/HO/HF
both in DAQ and TPG paths
- One might expect a substantially lower scalar ET sum ...
 - ☞ Pileup yields ~ 500-1000 GeV of ET sum @ high lumi
 - ☞ MET rate (both L1 and L2) is expected to be lower



Pileup Subtraction Effect on MET (II)



☞ Both L1 and L2 MET rates became lower after simple pileup subtraction

☞ Translation to rate by just scaling to 31.5 MHz

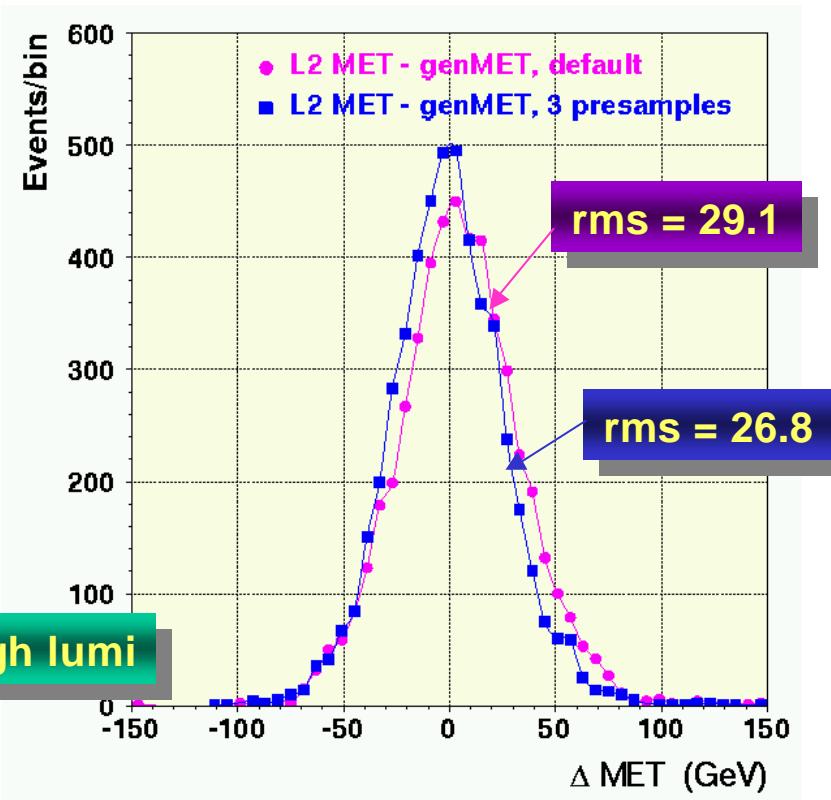
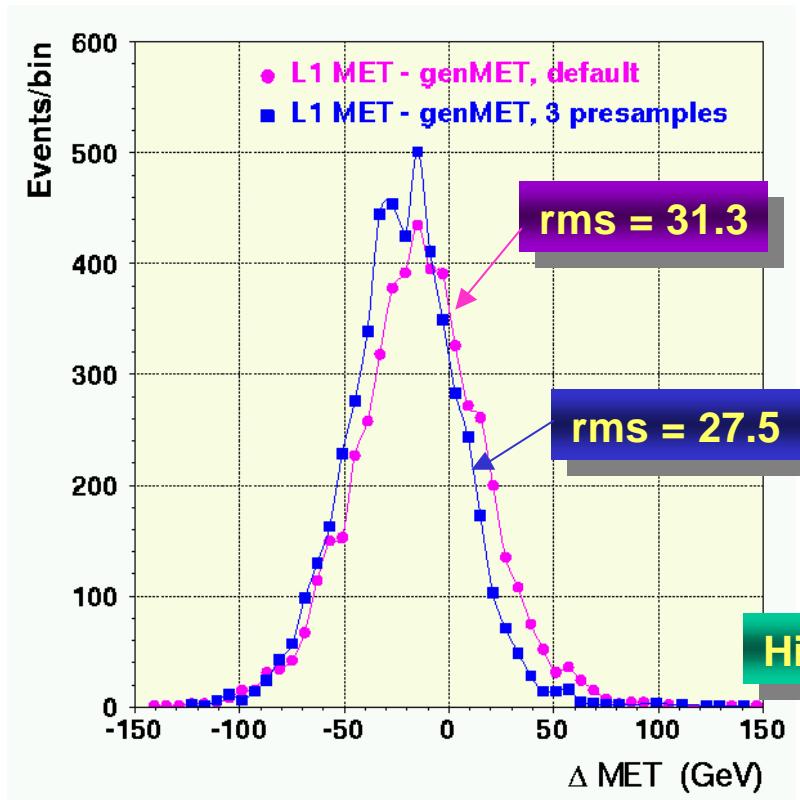


Pileup Subtraction Effect on MET (III)



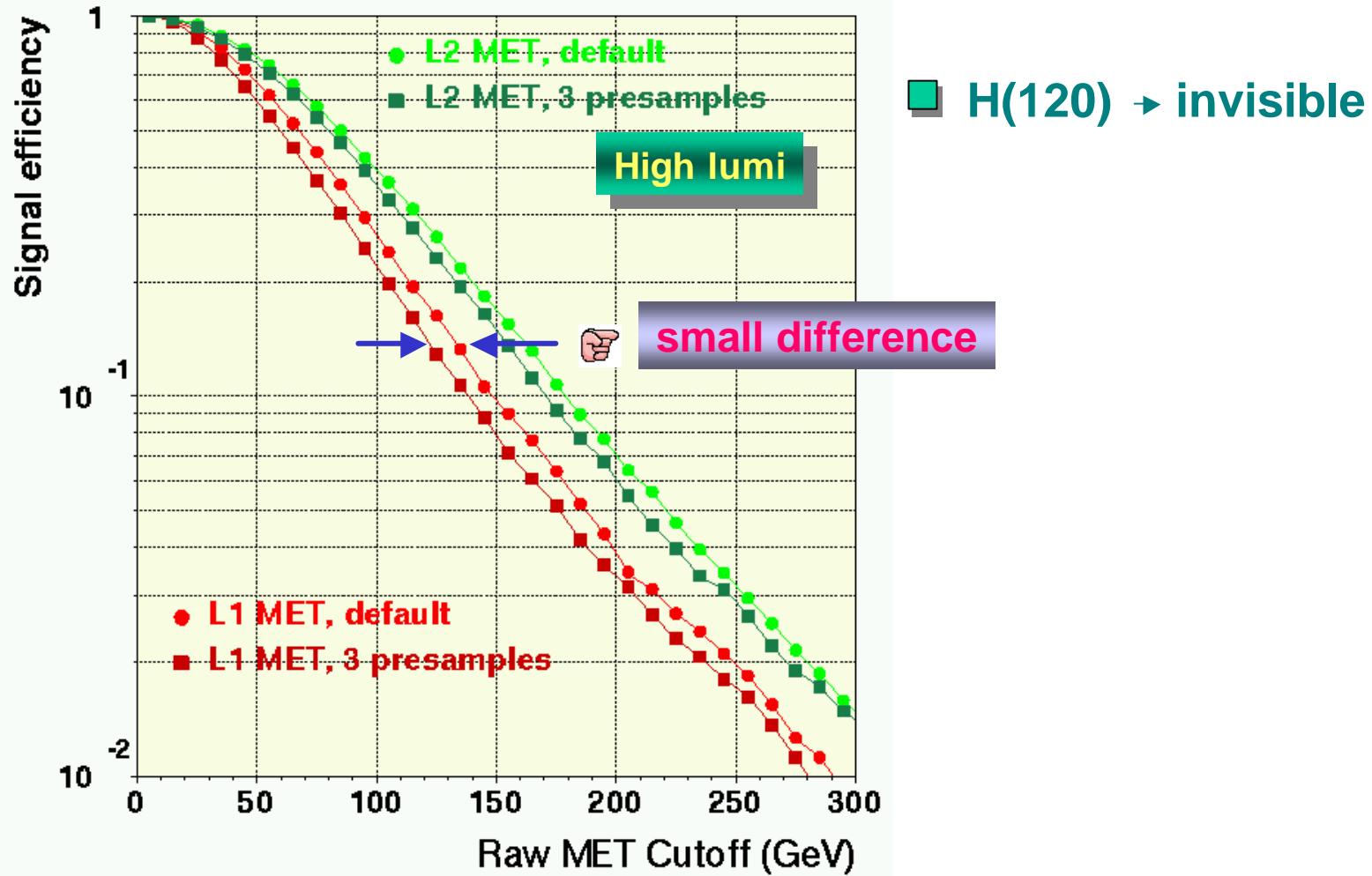
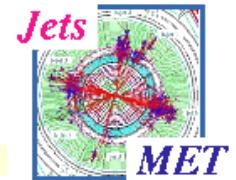
■ $H(120) \rightarrow \text{invisible}$

👉 small difference



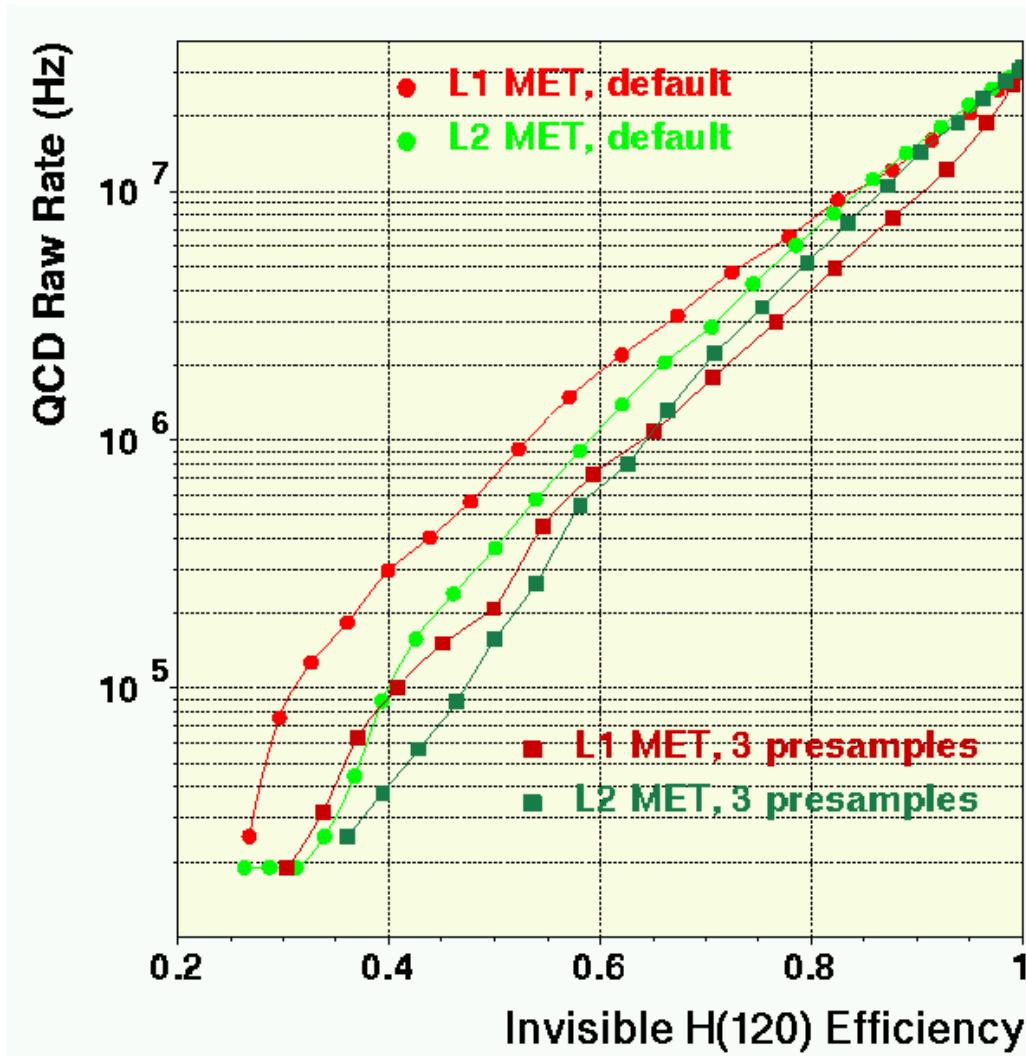
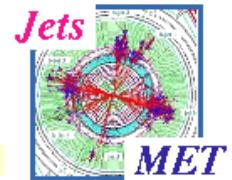


Pileup Subtraction Effect on MET (IV)





Pileup Subtraction Effect on MET (V)

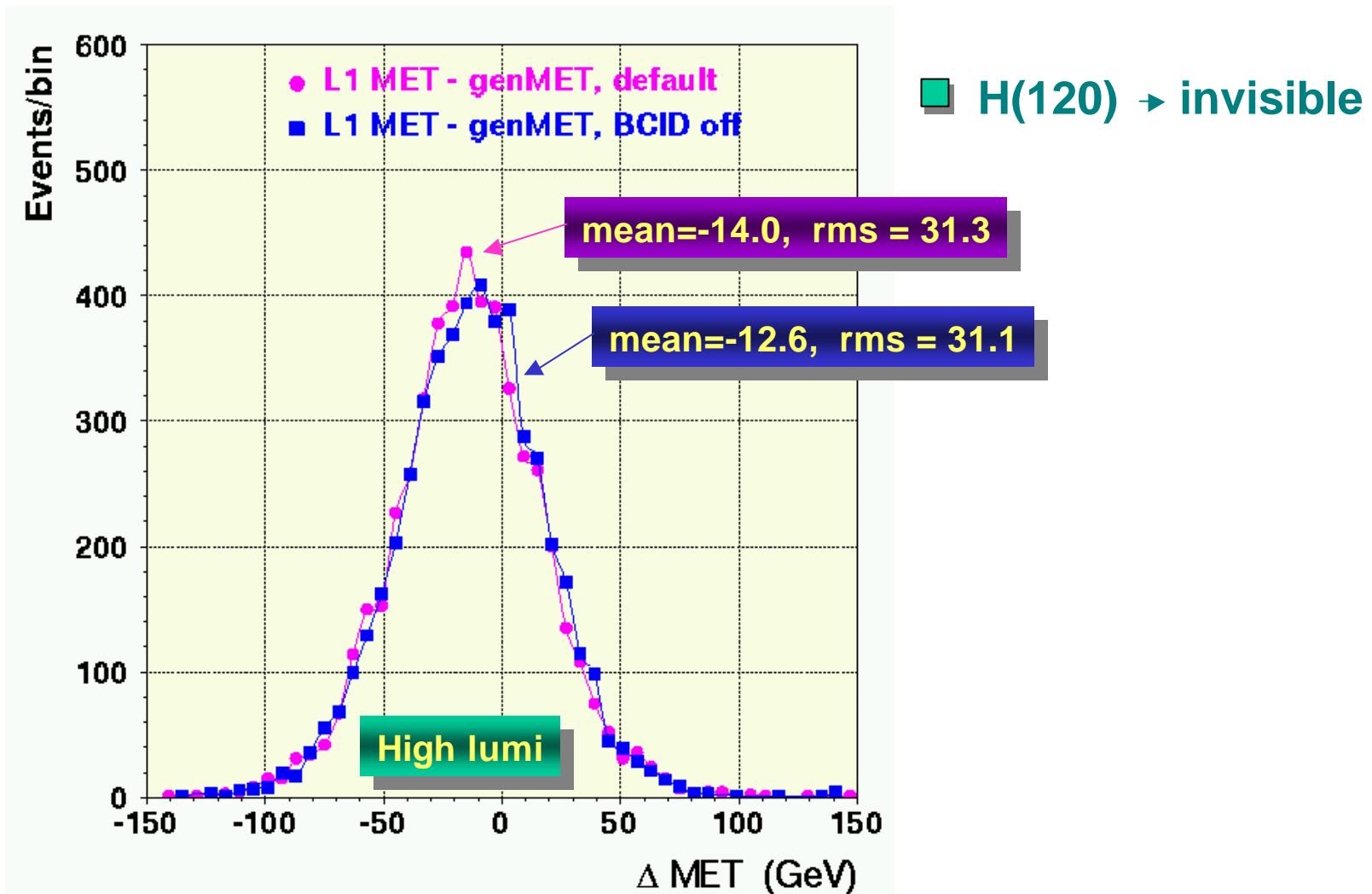
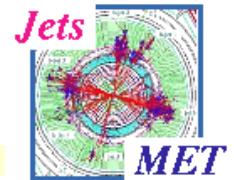


■ QCD (raw) rate vs
 $H(120) \rightarrow$ invisible
efficiency

☞ pileup subtraction
yields a small
benefit (?)

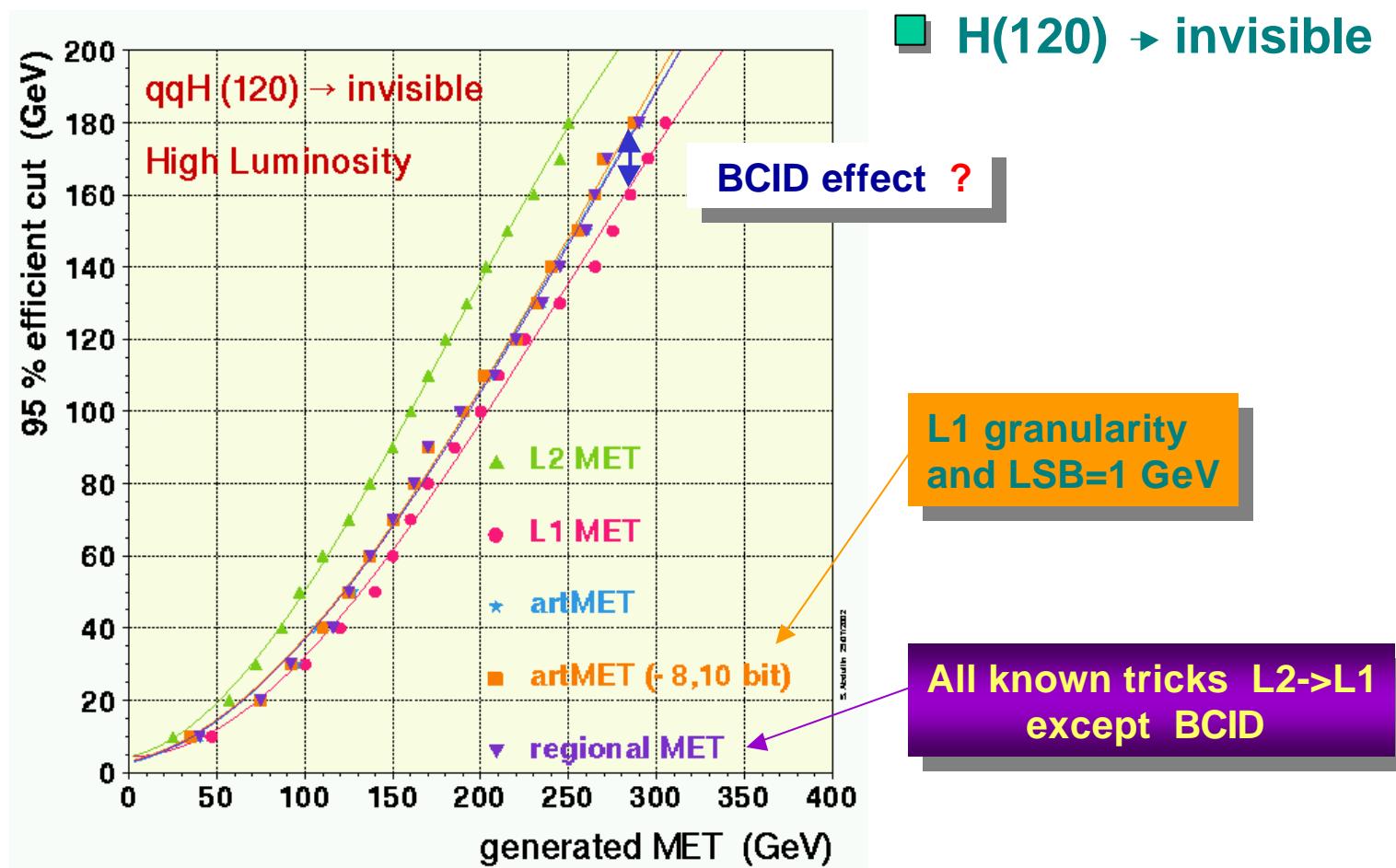
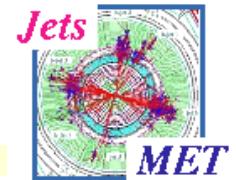


BCID Effect on L1 MET (I)



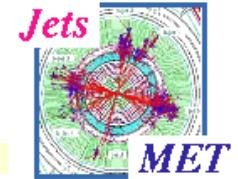


BCID Effect on L1 MET (II)





Miscellanea ...



- **Next 1-2 days : L1 & L1 MET @ low/high lumi
to clarify the situation ...**

- **Special thanks to Olga, who
helped me to unlock
once deadly locked private Objy DB
with BCID and presamples data ...**